



VALUE-BASED BENEFIT DESIGN AND VALUE- BASED PURCHASING IN THE MARYLAND SMALL- GROUP MARKET

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Maryland Health Care Commission

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CONTENTS

Introduction	1
Value-Based Benefit Design.....	2
What is value based benefit design and what is it designed to accomplish?	2
Two Approaches to Value-based Benefit Design	4
VBBD and Cost Containment	5
What are some examples of value-based benefit design programs?	6
City of Springfield, Oregon	6
State of Maine	7
Hannaford Brothers Company	7
What conditions must exist to make value-based benefit design doable?	8
What are the barriers to implementing a value-based benefit design program and making it successful?	9
What is the evidence about the success of value-based benefit design?	10
Summary of Factors that Determine the Return on Investment.....	12
What are the implications of the experience with value-based benefit design for Maryland's Comprehensive Standard Health Benefit Plan?	13
Value-Based Purchasing.....	15
What is value based purchasing and what is it designed to accomplish?	15
Pay for Performance Options	16
What are some examples of pay-for-performance programs that target physicians?	17
California's Integrated Healthcare Association.....	17
Bridges to Excellence	18
What conditions must exist to make value-based purchasing doable?	18
Data.....	18
Adequate Incentives.....	19
Provider Participation.....	19
What are the barriers to implementing a value-based purchasing program and making it successful?	20



Administrative Costs.....	20
Reluctance to Use Performance Information	20
Appropriately Structured Incentives and Measures of Performance	21
Choosing and Measuring Outcomes.....	21
Summary	22
What is the evidence about the success of value-based purchasing?	22
California’s Integrated Healthcare Association.....	23
Bridges to Excellence	24
Other Evidence.....	24
What are the implications for value-based purchasing in the Maryland small-group market?	26
Conclusions and Recommendations.....	27
Appendix A: Emerging Models of Payment Reform	29
Appendix B: Pay-for-Performance Design.....	31
Selected Bibliography.....	33
Value-Based Benefit Design	33
Value-Based Purchasing	33



VALUE-BASED BENEFIT DESIGN AND VALUE-BASED PURCHASING IN THE MARYLAND SMALL-GROUP MARKET

INTRODUCTION

The most fundamental problem for the health care system in Maryland—and everywhere else—is that medical services costs are rising at a rate that substantially exceeds the rate of economic growth as a whole, so that health insurance coverage becomes more and more expensive in both absolute and relative terms. The consequence is that fewer and fewer small employers are offering coverage and more employees are choosing not to take up coverage even when their employers make it available. Virtually everyone who has studied this issue recognizes that we have to find ways to reduce cost escalation to avoid having more people fall into the ranks of the uninsured. Without success on this front, changes in insurance rating rules, redefining benefits that all insurers must offer in the Comprehensive Standard Health Benefit Plan, and other similar actions will not stem the tide of declining coverage.

There is widespread recognition that most of the incentives in the health care system do not encourage economical use of medical services. The combination of comprehensive insurance coverage for consumers and fee-for-service payment for providers creates no reason for either of the two key decision-makers to be concerned about costs. Many analysts believe that only by altering incentives to reward more economical behavior will it be possible to constrain the growth of health care costs. This proposition is one that Maryland legislators seem to agree is worth exploring.

In 2009 the Maryland General Assembly passed legislation (Senate Bill 637), which required the Maryland Health Care Commission “to study the options to implement the use of value-based health care services to increase efficiencies in the Comprehensive Standard Health Benefit Plan” in the small group health insurance market. As part of the approach to fulfill-



ing this responsibility, the Commission engaged Health Management Associates “to review critically the literature on VBBD, to compare the strengths and weaknesses of patient incentives (VBBD) compared with provider incentives (VBP), and to suggest promising models of VBBD that might be adopted by the Commission in revising the Comprehensive Standard Health Benefit Plan (CSHBP) used in Maryland’s small group market.” The Commission went on to advise that the primary focus should be on value-based benefit design. This report is the response to that charge. It is a summary and discussion of the important concepts and issues we learned about in doing an extensive review of the relevant literature.

Value-based benefit design (VBBD) and value-based purchasing (VBP) are designed to change some of the key incentives facing consumers and doctors. They both aim to reduce costs by discouraging utilization of services that have little or no positive impact on health—which the research shows may account for as much as 30 percent of health expenditures—while encouraging utilization of services with high value for patients. These innovations seek to move the provision of medical care further toward evidence-based medicine. Both approaches are based on the reasonable assumption that changing financial incentives alone can alter behavior, causing significant numbers of people to do what they would otherwise not do—that paying people more (or reducing the costs they incur) can promote desired behavior, that paying them less (or increasing the cost they incur) can discourage undesired behavior.

In discussing these two broad approaches to create incentives to improve quality and control costs, we attempt to answer six questions:

1. What is the approach and what is it designed to accomplish?
2. What are some examples of the approach?
3. What conditions must exist to make the program doable?
4. What are the barriers to implementing the program and making it successful?
5. What is the evidence about the success of the approach?
6. What are the implications of the experience with the program for Maryland’s Comprehensive Standard Health Benefit Plan?

We begin with a discussion of value based benefit design (VBBD), also commonly referred to in the literature as value-based insurance design (VBID).

VALUE-BASED BENEFIT DESIGN

What is value based benefit design and what is it designed to accomplish?

Since the days of the RAND Health Insurance Experiment of the 1970s, it has been known that if consumers are required to pay higher levels of cost-sharing, they will curtail their utilization of health services.¹ When the amount consumers pay out of pocket increases, the effective price is higher, so they consume fewer services and their health care spending drops.

¹ Michael E. Chernew, Allison B. Rosen, and A. Mark Fendrick, “Value-based Insurance Design,” *Health Affairs*, Web Exclusive, January 10, 2007, w196.



The implications of this pattern of behavior have not been lost on insurers and employers as they try to find ways to reduce health insurance premiums. Businesses that offer health coverage to their employees are increasingly embracing consumer cost-sharing—higher deductibles, copayments, and coinsurance rates—as a way of lowering what they pay for health coverage.² Consumer cost-sharing reduces premiums in two ways:

1. When patients consume services, they pay a higher proportion of the costs, which means insurers pay less. Of course, this does not reduce total health expenditures; it just shifts the burden of payment from the insurer and the employer to the consumer.
2. From the consumer's perspective the price is higher, so some consumers cut back on utilization of the services to which the cost-sharing applies. At least in the short run, the effect is to reduce premiums and total health expenditures.

But such generalized cost-sharing is a blunt instrument for cost cutting. The problem is that people consume fewer of both low-value and high-value services. The research evidence shows that consumers are as likely to forego needed, even life-saving, care as they are to reduce their utilization of services that have only a marginal positive effect.³ There is strong evidence, for example, that when cost-sharing is increased, fewer people fill prescriptions prescribed by their providers to alleviate serious health conditions.⁴ Such behavior is almost certainly a result of consumers' inability to distinguish between high-value and low-value services, that is, to determine what is vital and what is discretionary. In a sense, generalized cost-sharing is based on the assumption that consumers can make valid judgments about the relative value of various medical services, a task that in many instances is beyond their capabilities. They are sometimes being asked to do something that only medical practitioners are qualified to do.

In the long run, such generalized cost-sharing may have a deleterious effect on consumers' health, even when cost-sharing levels are modest.⁵ Long-term health care expenditures may thus increase because patients ultimately need treatment for more serious conditions that could have been averted by earlier intervention. Even health savings accounts and other benefit structures that start with high deductibles often dramatically reduce cost-sharing amounts for certain preventive services in recognition of the fact that such deductibles may deter people from consuming these cost-effective services.

Because of the deficiencies of cost-sharing that applies to all medical services generally, analysts have sought a more refined and targeted way of using consumer cost-sharing to reduce costs while not reducing quality of care. Value-based benefit design is the result of this thinking. The basic idea is simple: determine which services are high-value in terms of producing significant positive health outcomes and minimize consumer cost-sharing for those services; at the same time increase consumer cost-sharing levels for services that have relatively low value in terms of their impact on health. To put it another way, the more clinically beneficial the service for the patient, the lower the patient's cost share. One prominent architect of

² The Kaiser Family Foundation and the Health Research and Educational Trust, "Employer Health Benefits, 2009, Summary of Findings," <http://ehbs.kff.org/pdf/2009/7937.pdf>

³ Mark Fendrick and Michael E. Chernew, "Value Based Insurance Design: Maintaining a Focus on Health in an Era of Cost Containment," NIHCM Foundation, June 2009.

⁴ A. Mark Fendrick, *Value-based Insurance Design Landscape Digest*, Center for Value-based Insurance Design, University Of Michigan, July 2009, 3.

⁵ Michael E. Chernew, Allison B. Rosen, and A. Mark Fendrick, "Value-based Insurance Design," *Health Affairs*, Web Exclusive, January 10, 2007.



value-based benefit design has referred to this as “clinically sensitive, fiscally responsible cost-sharing.”⁶

The key objective of value-based benefit design is to enhance the value of medical services people consume. The proponents of value-based benefit design do not always explicitly define “value,” but the concept clearly involves the relationship between health outcomes and resource inputs. One analyst defines it as “the amount of health gain per dollar spent on healthcare services or health benefits,”⁷ another as “benefit net of costs.”⁸ The latter definition closely corresponds to the economists’ notion of cost effectiveness, which is the ratio of benefits to costs. The question that is implicit but seldom discussed is at what point, as the ratio of benefits to costs declines as medical services are arrayed from those of highest value to those of lower value, should cost-sharing levels be increased?

Two Approaches to Value-based Benefit Design

There are two approaches to targeting value-based benefit design. The first, less refined approach, identifies the high-value and low-value services, adjusts co-payment levels accordingly, and then applies these adjusted cost-sharing levels to *all* who are insured. But medical practitioners know that what is a high-value and a low-value medical service depends to a large degree on a patient’s medical situation. For example, a beta blocker drug may be of extremely high value to a person with coronary disease but of less value to a person who is seeking relief from performance anxiety. The second, more refined approach would identify the medical services that have high or low value for *particular* individuals with different health conditions and would then vary the consumer cost-sharing according to the relative value of the service to each individual.

To this point, value-based benefit design has been most frequently applied to prescription drugs, in part because it is easier to identify the circumstances under which particular drugs have high value than to do so for other kinds of medical services. But changes in financial incentives can also be used to foster other behavior changes—for example, to promote healthful behaviors such as smoking cessation or increased physical activity, to encourage use of preventive services, to increase participation in health management programs, or to induce patients to seek treatment from high-performance providers, such as those who adhere to evidence-based treatment guidelines.⁹ Of course, variations in copayment levels have long been used by preferred provider organizations (PPOs) to encourage people to use in-network providers.

One observer summarizes the range of approaches to using value-based benefit design as follows:¹⁰

- reducing co-payment amounts for prescription drugs and equipment (e.g., glucose test strips and needles) used to treat a specific condition, such as diabetes;
- reducing co-payment amounts for specific prescription drugs or equipment used to treat a specific condition when the individual participates in a disease management program;
- reducing co-payment amounts for office visits billed as wellness visits;

⁶ A. Mark Fendrick, *Value-based Insurance Design Landscape Digest*, 4.

⁷ *Ibid.*, 5.

⁸ Margaret Houy, *Value-based Benefit Design: a Purchaser Guide*, National Business Coalition on Health, January 2009, 2.

⁹ Houy, 2.

¹⁰ Houy, 10.



- modifying deductibles for completing a personal health assessment (PHA);
- modifying deductibles for participating in a disease management or wellness program;
- modifying co-pays or deductibles for completing a shared- decision tool before proceeding with preference-sensitive treatments; . . .
- reducing co-payment amounts for using high quality providers;
- reducing premium contributions for completing a PHA;
- reducing premium contributions for smoking cessation;
- reducing premium contributions for participating in either a disease management or wellness program;
- making a contribution to an employee's Health Savings Account (HSA) for completing a PHA, and
- making a contribution to an employee's HSA for participating in a disease management or wellness program.

As these examples illustrate, the most common implementation of value-based benefit design involves reducing cost-sharing for particular high-value medical *services*. But a number of health plans are reducing cost-sharing when consumers choose high-value *providers*, practitioners that the health plans have identified as providing either less costly or higher-quality care or both. The same approach is being used by many plans to encourage consumers to get services from less costly *sites* of care, such as urgent-care centers in preference to emergency departments.

VBBD and Cost Containment

Even though value-based benefit design probably appeals to employers because they see it as a promising approach to containing costs, the main purpose is to get more value for what is spent—to improve the health of patients by reducing financial disincentives to consume needed services, particularly by inducing them to adhere to treatment programs recommended by their medical providers. In a sense, VBBD is designed to offset the negative incentive created by generalized, across-the-board consumer cost-sharing. If patients faced no deductibles or copayments, VBBD would not be necessary because there would be no financial barriers to consuming high-value services (and, of course, no disincentive to consuming low-value services).

Nevertheless, value-based benefit design can produce medical cost savings in two ways:

1. Cost savings could be realized if the reduction in cost-sharing for high-value services is more than offset by increased cost-sharing for low-value services—that is, if the shifting of costs to the consumer along with decreased consumption of low-value services more than offsets the increased consumption and reduced cost-sharing of the high-value services.
2. Costs could be reduced if the increased consumption of services with lower cost sharing causes patients' health to stabilize or improve so that they later need fewer expensive medical services, such as hospital stays. Such cost savings may not appear immediately.

For employers there is a potential third important source of savings not related to medical care: if workers' health improves because they respond to the financial incentives by adhering to the recommended treatment protocols, worker productivity may increase. Absenteeism may decline, fewer people may come to work when they are sick and unproductive (a



phenomenon called “presenteeism”), and healthier people may be more productive whenever they are on the job.

People with experience with value-based benefit design caution that the major motivation for adopting such a strategy should be to improve the health of workers and not necessarily to produce short-run financial savings. The intent is to obtain the greatest positive health impact from medical expenditures. In some instances the result may be reduced medical costs in the short run, but the payoff is likely to be felt more fully in the long run, when expensive treatment of serious conditions is not necessary, when worker productivity increases because workers are healthier, and when employee turnover is lower because of greater satisfaction with the health coverage.

What are some examples of value-based benefit design programs?

Many purchasers have experimented with value-based benefit design in recent years. Three recent summaries list the following entities: Caterpillar, Dell, Dow Chemical, Gulfstream, IBM, Marriot, Pitney Bowes, PPG Industries, the State of Washington, the State of Maine, Chippewa County, Wisconsin, Polk County, Florida, City of Springfield, Oregon, City of Battle Creek, Michigan, Service Employees International Union Health Care Access Trust, Mid-American Coalition on Health Care, Health Alliance Medical Plans, Hannaford Brothers Company, Midwest Business Group on Health, and UnitedHealthcare.¹¹ Other prominent examples include the University of Michigan and the City of Asheville, North Carolina.

The typical VBBD program focuses on improving adherence to prescription drug regimens for people with chronic diseases like diabetes and asthma. The first program described below is typical of that approach and it is just one of many we could have chosen as an illustration. The other two are examples of programs that focus on altering utilization of other medical or health services, which is less common.

City of Springfield, Oregon¹²

Modeled after the program in the City of Asheville, North Carolina, which is considered one of the pioneering efforts at value-based benefit design, the Springfield program focuses on diabetes. It waived copayments and coinsurance for prescription drugs and office visits for patients seeking to control diabetes. All enrollees received this benefit, but an intervention group had the additional benefit of sessions with a pharmacist, who counseled them on the disease and how to treat it. The control group experienced a 30 percent decrease in HBA1c levels (the desired direction), and the intervention group showed a 50 percent decrease. On some other measures, the results were more mixed. Perhaps the most interesting result was the effect on sick leave time. For the control group, sick leave days actually increased slightly from 87.7 hours to 90.4 hours, not a desirable outcome; but for the intervention group (those receiving counseling as well as lower cost-sharing), sick leave days declined significantly, from 83.7 hours to 68.4 hours, an 18 percent drop.

¹¹ Fendrick; Houy; and Center for Health Value Innovation.

¹² Fendrick, p. 18; Houy, 22.



State of Maine¹³

The value-based benefit design of the state of Maine, which covers over 30,000 state employees, dependents, and retirees, is especially interesting because it was designed to alter behavior not related to just prescription drug usage but also to choice of providers. Utilizing a variety of hospital quality measures, the state identified some hospitals as “preferred hospitals.” Patients who chose a preferred hospital were granted an exemption from the annual deductible. To improve disease management of employees with diabetes, the state set up a program to provide telephonic education and support. Patients participating in the program received a range of financial incentives, including waivers of copayments for prescription drugs and supplies, and an exemption from the deductible for preventive services. Later, when a program was established for measuring the quality of care in physician practices with regard to management of chronically ill patients and those with diabetes and heart disease, members were given a financial incentive to seek care from high-value physician practices; office visit co-pays and the annual deductible were waived for any services billed by the primary practice.

The state found that these incentives resulted in hospitals and physicians taking the steps to be ranked as preferred providers. The program produced quality improvements in two ways: more patients were motivated to seek care from high-quality providers, and more providers were motivated to take steps to improve quality so that they could be designated as high-quality providers. The program appears to be successful in a variety of ways. There was a 5 percent shift in outpatient services from non-preferred to preferred hospitals. The average cost for diabetes-related emergency department visits declined by 8 percent. The average cost for an inpatient day declined by 4 percent. As expected, the average cost for a physician visits increased, as did the average cost for diabetes drugs. The number of patients possessing prescribed medications (adherence) increased from 61 percent to 79 percent.

Hannaford Brothers Company¹⁴

A northeastern U.S. supermarket chain headquartered in Maine and employing 27,000 people, Hannaford Brothers adopted a value-based benefit design program to provide incentives to select top-quality providers and to utilize non-invasive surgery. The company offered richer benefits to employees choosing top-tier providers, reduced copayments for certain diseases, offered healthful behavior credits, and provided financial incentives to use certain providers for minimally invasive procedures such as hysterectomies, appendectomies, and gastric bypass. The company concluded that the program has been a success, improving diabetes biometrics, decreasing heart attack rates, and saving money for both employees and the company. In addition, the non-invasive surgeries have become the default procedures for the targeted conditions.

¹³ *Value-based Design in Action: How Five Public-Sector Employers Are Managing Cost and Improving Health Using Value-based Design*, Center for Health Value Innovation, August 2009.

¹⁴ Fendrick, 17.



What conditions must exist to make value-based benefit design doable?

If value-based benefit design is to achieve the desired objectives, a number of conditions have to be present:

1. Evidence-based research must be readily available that shows which medical services are high value and which are low value under specific circumstances.
2. The change in the consumer cost-sharing level must be sufficient to change consumer behavior in the desired direction.

If value-based benefit design is to be the more sophisticated approach that utilizes differential payment requirements for people with different medical circumstances, additional conditions must be met:

3. Evidence-based research must be available to show which *particular* patients would benefit from the medical service to which the cost-sharing reduction is to apply.
4. The particular people in the insurance pool that have those medical conditions must be reliably identifiable from some data source. At this point, insurers' ability to identify targeted populations from claims data is somewhat limited, though improving.¹⁵

No one of these conditions is easily met, so it is not surprising that value-based benefit design has been applied to only a few medical services, most commonly prescription drugs. The expectation is that by removing the financial barrier that cost-sharing presents, patients will be more likely to take the prescribed drug. Even in the case of prescription drugs, the strategy has been applied primarily for drugs that are used to treat chronic diseases like diabetes, asthma, and high blood pressure. In these cases the evidence is very clear that the drugs are effective for people who have the disease and not effective or even frequently prescribed for others. As one observer has noted, "Most VBBD initiatives begin with prescription co-pays because most costs can be definitively calculated, benefits reasonably modeled and compliance tracked electronically."¹⁶

The conditions identified above are those that are necessary in all circumstances if value-based benefit design is to be effective. But additional conditions must be met to make value-based benefit design practical for any particular purchaser:¹⁷

1. The purchaser must have a workforce with relatively low turnover. If employee turnover is high, the time for an employer to benefit from medical cost savings and increased productivity may be too short to offset the increased administrative costs of operating the program. In particular, measures designed to improve healthful behaviors, such as smoking cessation or increased physical activity, may have payoffs that are well into the future.¹⁸
2. The purchaser must have sufficient numbers of employees with the illness/condition to make the administrative costs worthwhile and ultimately recoverable. For example, the benefits may not outweigh the costs if the preponderance of the workforce is young and

¹⁵ Houy, 16.

¹⁶ Houy, 10.

¹⁷ Houy, 7.

¹⁸ Paul Engstrom, ed., "Assessing Quality-based Benefit Design— Executive Summary," California HealthCare Foundation, April 2006, 3



healthy, so that few have chronic conditions that would benefit from increased consumption of the medical services subject to decreased cost-sharing.

3. Most of the employers that have adopted a value-based benefit design have been very large, typically employing 10,000 or more people. Some proponents of value-based benefit design suggest that for small employers the administrative costs of setting up and operating a VBBD—data collection and analysis, communication strategies, and evaluation—may be too high to make it a cost effective strategy.
4. Advocates of value-based benefit design also note that it is crucial for senior leaders in the organization undertaking the program to be committed to it and to recognize that it is not just a short-term strategy with immediately measurable benefits.
5. The evidence also shows that value-based benefit design is more likely to be successful if it is supplemented with support and education programs that help to inform the target population about the intent and benefits of the program and to regularly motivate them to change their behavior in the desired ways. For example, employees find it counterintuitive that high-value services will cost less, and they need to be informed about why such a system promotes better health and benefits everyone.¹⁹

What are the barriers to implementing a value-based benefit design program and making it successful?

Purchasers that wish to implement value based benefit design need to consider possible barriers. They include the following:²⁰

- *Concern over increased use and cost.* Lower cost-sharing is intended to increase utilization and, of course, also increases the proportion of the cost paid by the insurer; both sources of cost increase will be reflected in the employer's premium. (Proponents note, however, that by properly balancing decreased cost-sharing for high-value services with increased cost-sharing for low-value services, it is possible to make a program "budget neutral.") Setting up the program also increases administrative costs. Employers are likely to be concerned that the payback in terms of reduced future medical expenses and improved worker productivity may not offset the costs or may be too far in the future to be captured by the employer. So it may be important to concentrate on medical services that have a relatively quick payoff.
- *Research and technical limitations.* A VBBD purchasing strategy depends on the ability to distinguish high-value services from low-value services for particular patients under particular conditions. This evidence is lacking for many diseases and conditions. It further requires the ability to assess value: to measure costs and benefits—which requires a combination of clinical judgments and health economics—and the actuarial expertise to assign the appropriate levels of cost-sharing to produce desired behavior changes. Many employers hire vendors to carry out these tasks.
- *Data issues.* A successful value-based benefit design program must have access to data sources and the analytic capability to identify patients whose medical conditions make

¹⁹ Houy, 11.

²⁰ Michael E. Chernew, Allison B. Rosen, and A. Mark Fendrick, 10-11.



them appropriate candidates for the consumption of high-value medical services and to distinguish them from those that are not good candidates.

- *Privacy issues.* VBBD programs require collection and analysis of sensitive medical data about individuals. Employers have a moral responsibility as well as a legal obligation under HIPAA to ensure that this information is handled appropriately.
- *Adverse selection.* VBBD gives favored financial treatment in the form of lower cost-sharing to people with specific diseases. People with those diseases are likely to gravitate to health plans that have lower cost-sharing. Thus health plans or employers that use VBBD may attract a disproportionate share of people who are costly to treat, which would cause the employer's medical claims costs to increase.
- *Negative reaction from some plan members.* The plan members who now face higher cost-sharing levels for the medical services deemed to be of low value or who have to pay more than fellow plan members targeted for lower cost-sharing may be disgruntled. The experience has been, however, that if employees are carefully educated about the intent and nature of the program, they are supportive of the effort.²¹
- *Fraud.* VBBD programs that provide lower cost-sharing for patients with particular conditions create incentives for those who are not so targeted to misreport information so that they can become eligible. The presence of this potential problem may limit the use of VBBD to disease conditions where the evidence to classify patients is easily verifiable.
- *Measuring outcomes and return on investment.* To determine whether the program is successful and thus worth continuing, it is essential to measure outcomes, but this can be a difficult task analytically and adds to the costs of implementing a program.

What is the evidence about the success of value-based benefit design?

Although most employers undoubtedly do care about the welfare of their workers apart from any business motivation, probably few will be willing to switch to value-based benefit design unless they are convinced that there is a business case for doing so. If there is no ultimate payoff in terms of reduced medical expenditures, increased employee productivity, or better retention of high-value employees, it would be hard to justify taking on the costs of implementing such a program.

Although anecdotal evidence and a number of case studies suggest that value-based benefit design can improve compliance with medical regimens and reduce costs, there is no definitive body of research that shows a positive return on investment (ROI) generally. One review of the evidence summarizes the findings this way: "The currently available research evidence documenting a positive ROI is limited, preliminary and mixed. While self-reported positive financial returns have received wide media coverage, there are no published studies that evaluate financial returns using rigorous research methodologies."²²

One comprehensive 2006 review conducted by Price Waterhouse examined about 100 articles published since 2000, including those in academic journals and elsewhere. The review

²¹ Chernew, Rosen, and Fendrick.

²² Houy, 4.



examined six areas of quality-based benefit tactics—defined as benefit design strategies that seek to increase the net value of health care spending:

1. Health plan options, eligibility, and premium contributions.
2. Provider selection and differentiation of provider performance.
3. Inpatient and outpatient benefit design.
4. Pharmacy benefit design.
5. Health promotion/risk reduction and chronic care management.
6. Giving price and quality information to health care consumers.

The review concluded that

for about three fourths of the benefit design tactics, there is only partial evidence they improve the quality of health care and limit or reduce costs. Exceptions were pharmacy benefits . . . and health promotion programs; tactics in these categories, evidence suggests, can achieve their intended results. . . . The review also found limited evidence of a short-and long-term return on investment for quality-based benefit designs. . . .

To date, there have been few scientific studies of quality-based benefit designs, or studies have been so restricted that they did not clearly demonstrate a particular design's impact on quality.²³

One recent rigorous study looked specifically at the impact of decreasing copayments on medications and the effect on adherence within a disease management environment. The study compared the populations for an employer introducing a new clinically sensitive copayment mechanism with a control employer that had not done so but was otherwise comparable. The authors concluded that the new copayment approach had the desired effect for some of the medications.

There is a clear positive effect of the intervention on adherence to diabetic agents, beta-blockers, and Ace inhibitors/ARBs. The effect for statins is also positive and statistically significant. Multivariate analyses suggest a small positive result for inhaled corticosteroids, but this is not a statistically significant. . . .

[The results] represent a 7-14 percent reduction in nonadherence for the four classes where a statistically significant effect was found. . . .²⁴

Although the authors did not study the effects of greater adherence on savings in the form of non-drug spending or increased worker productivity, they did indicate that “estimates based on crude assumptions about effectiveness of these medications on adverse events suggest that adherence results of the magnitude reported here could generate offsets equal to the cost of the additional prescriptions filled.”²⁵

A recent simulation study suggests the possibility of large savings from a properly structured value-based benefit design alternative for statins:

²³ Engstrom, 2

²⁴ Michael E. Chernew et al., “Impact of Decreasing Copayments on Medication Adherence within a Disease Management Environment,” *Health Affairs*, Vol. 27, No. 1, January/February 2008, pp. 108-109.

²⁵ Ibid., 111.



[The simulation assumed] a policy that eliminated copayments for statin therapy for patients with high and medium risk for cardiovascular disease (from \$10-\$0) but raised them (from \$10-\$22) for low-risk patients. Based on a national sample of 6.3 million adults undergoing statin therapy, this policy would avert 79,837 hospitalizations and 31,411 emergency department admissions—yielding a total savings of more than \$1 billion annually.²⁶

What can be concluded at this point, based on these and other studies that arrive at similar conclusions, is that value-based benefit design holds promise for both improved health and reduced costs, but definitive evidence of a positive return on investment is not yet available. In assessing the current evidence, it is important to remember that value-based benefit design is a relatively young strategy that is being refined as more employers adopt it. Health plans and others involved in implementation are almost certainly becoming more skilled and adept at designing programs that will have a positive payoff.

It is clear that a large number of employers believe that value-based benefit design is “the right thing to do” even in the absence of conclusive evidence that it produces a significant positive return on investment. They seem satisfied that the positive results from a number of case studies provide a convincing reason to move forward with such strategies.

Summary of Factors that Determine the Return on Investment

The return on investment will be different depending on the parameters of the VBBD program, the population being targeted, and the response of the target population. The payoff from implementing value-based benefit design will be higher—

- The smaller the reduction in the patient cost-sharing amount for those experiencing a decrease and the greater the increase for those experiencing an increase.
- The fewer the number of people who are assigned the lower cost-sharing amounts and the greater the number who are assigned greater cost-sharing.
- The greater the ability to identify people who are candidates for lower cost-sharing and to distinguish them from others.
- The higher the compliance rate change subsequent to the new incentive.
- The lower the proportion of people who would have complied even without the incentive.
- The greater the success rate of the treatment, that is, the greater the extent to which increased compliance improves health status.
- The higher the extent to which compliance and subsequent improved health status reduces health expenditures and improves productivity.

Not surprisingly, some of these factors work at cross purposes. For example, when the reduction in patient cost-sharing is small, the likelihood that patients will alter their behavior in the desired direction is decreased.

²⁶ A. Mark Fendrick and Michael E. Chernew, “Value-based Insurance Design: Aligning Incentives to Bridge the Divide between Quality Improvement and Cost Containment,” *American Journal of Managed Care*, Vol. 12, Special Issue, December 2006, p. SP 8.



What are the implications of the experience with value-based benefit design for Maryland's Comprehensive Standard Health Benefit Plan?

Is there reason to consider implementing some kind of value-based benefit design in Maryland's small-group market? If so, what form could it take, and how could it be implemented?

To consider the easiest option first, the Commission could encourage health plans in the state to build on work many have probably done for their large-group business. Such plans may have a menu of value-based benefit design they use for some of their larger customers, including not just modified cost-sharing for high-value medical services but also incentives to use designated high-value providers or "networks of excellence." It may behoove the Commission to continue encouraging carriers to recommend strategies they think would be appropriate to spread to their small-group market customers. Such an approach would be a way to jump over some of the barriers to implementation that could get in the way of more Commission-directed possibilities that we discuss below.

This modest approach certainly seems possible. There do not seem to be legal impediments to prevent insurers from adapting the strategies they use with large employers to the small-group market. Under the current definition of benefits for the Comprehensive Standard Health Benefits Plan, insurers have the option of offering riders that incorporate value-based benefit design principles, especially with respect to prescription drugs, where the minimum level of cost-sharing is so high that there is plenty of room for flexibility and innovation. The question is whether, without a Commission mandate, enough small employers would be attentive enough to the potential benefits to choose this option when they are deciding on prescription drug coverage. Further, will insurers decide that there is a strong enough business case to justify adapting this strategy to the small-group market? Finally, will the regulatory environment provide sufficient flexibility to allow insurers to institute such reforms without having to go through a burdensome review process (which is not an issue for insurers' self-insured business segment)?

A more ambitious approach would be for the Commission to more directly institute some form of value-based benefit design. In considering this option, the first thing to recall is that there is not a body of rigorous research to demonstrate that the programs tried to date have improved health outcomes or reduced costs, even though the results of a number of efforts appear to have been favorable. The uncertainty of the payoff raises questions about the appropriateness of imposing value-based benefit design as part of the definition of benefits in the comprehensive standard health benefit plan.

The second issue is how the Commission could or should employ value-based benefit design. Experience suggests that the approach is more likely to be cost-effective for large employers because of the relatively high fixed cost of establishing and operating a program. Of course, in this instance all the employers that would be affected are small. The average group size in the Maryland small-group market is six to eight employees, and many firms are struggling to stay viable. Clearly, such firms have neither the time nor the resources to even consider implementing a value-based benefit design program for themselves.

However, if health plans serving the small group market in Maryland were to implement value-based benefit design programs and apply them to their entire small-group market in



the state, the startup and implementation costs would be spread over all of the plan's business in Maryland. Thus, for the largest plans, the approach might be economically practical. But for smaller carriers, the cost per enrollee would be high.

From the employers' perspective, even if individual employers served by an insurer taking this approach had very few employees who would be targeted by the altered cost-sharing for medical services related to specific chronic diseases, for all small employers as a group the number of such individuals would likely be sufficient to yield the desired results. Even if some employers had very high worker turnover, so that they would not realize any savings in the form of reduced medical costs or improved worker productivity, for small employers in the aggregate it would be reasonable to expect a positive result. All small employers buying coverage from an insurer adopting the VBBD approach would benefit in the form of lower insurance premiums, either in the short run or the long run, if implementation of such a program caused medical claims in the small-group market to rise less rapidly than they otherwise would. Thus the conclusion that value-based benefit design may be practical only for large employers does not apply if the reform were to be instituted for a large insurer's entire small-group market in Maryland.

Presumably, the Commission could establish a value-based benefit design program by redefining the benefit package of the comprehensive standard health benefit plan. This would involve specifying the cost-sharing levels for specific medical services, which would presumably have the effect of requiring all issuers serving the small-group market to take the steps to implement the value-based benefit design program. Adapting to such a requirement would be less difficult for insurers to do if the reforms involve the less sophisticated form of value-based benefit design, where cost-sharing levels are decreased for all enrollees for the services determined to be of high value and increased for those determined to be of low value. If the Commission went further and established reforms that alter the cost-sharing levels based on which enrollees present particular health conditions, insurers would have to establish mechanisms and collect data to identify the patients now subject to reduced cost-sharing and to distinguish them from others—clearly, a major effort. Communicating with employees to adequately educate them about the nature and purpose of such a complicated program would be beyond the capacity of individual small employers, so the task would fall to the insurers. It would be a real challenge even for them.

Imposing a new benefit plan design would create additional burdens for insurers. For the large carriers, the costs would probably not be excessive, but the new requirements could be difficult for some of the smaller insurers to meet. The costs would be high relative to their premium revenue unless they already had in place a value-based benefit design program for their large group business that could be easily adapted to meet the new requirements for the small-group market. Insurers that are already marginal participants in terms of market share might decide to leave the Maryland small-group market rather than bear the costs of conforming to the new requirements. The effect would be to further reduce competition in a market that is dominated by one carrier.

From the insurer's perspective, such a requirement could seem onerous if the insurers have already instituted different kinds of value-based benefit design for some of the large employers they serve. It is unlikely that the approach the Commission required would match precisely with what such insurers were already doing. Further, a requirement that all insurers adopt the cost-sharing levels that the Commission requires could stifle experimentation with a variety of different approaches. Given the fact that there is still much experimentation and



no definitive evidence about which approaches are most effective, this could be an undesirable result.

It would also be important to ensure that the effectiveness of the reforms are evaluated, and at the very least this would require that the insurers collect data to make such an evaluation process possible and that someone be assigned the task of analyzing the data.

If the Commission were to undertake such a reform, it would have to decide which medical services should be subject to the new cost-sharing levels. Obviously, to implement an approach requires good information about the clinical effects of particular services. It would probably be sensible to start with cost-sharing for prescription drugs related to the chronic diseases that have been the target of considerable experience already, much of which has produced favorable results. Moreover, because of the amount of experimentation with this approach, the techniques for applying it and measuring results should be relatively available and thus not excessively expensive to implement. It also might be practical to use changes in cost-sharing to encourage lifestyle changes—for example, smoking cessation and improved physical activity. But the problems of determining whether people are adhering to the desired regimens are more difficult, and the evidence regarding an immediate payoff is less conclusive. Using value based benefit design to encourage consumers to seek care for high-quality providers is not really possible unless there is a system in place to identify such providers, and the Commission may have only an indirect capacity to promote such a system. The carriers may have developed their own systems, but they are not likely to all identify the same providers; so it would be difficult for the Commission to mandate the use of one of these systems without creating difficulties and costs for other carriers.

Whatever approach the Commission decides to pursue, it would seem prudent to consult with insurers in the state before undertaking such a program.

VALUE-BASED PURCHASING

What is value based purchasing and what is it designed to accomplish?

Value-based purchasing is based on the commonsense idea that providers, like virtually everybody else, are influenced by financial incentives (among other motivating factors), and that if the financial payment system rewards certain behavior, then that is the behavior that providers will exhibit. In that sense, every provider payment system is a “pay for performance” system. The prevailing fee-for-service incentive system, for example, pays for performance that is measured by the *amount* of medical services produced. So that is what the system produces—many medical services and inordinately large quantities of highly compensated services, most notably specialty services rather than primary care services and procedures rather than education and counseling. The fee-for-service system certainly does not pay providers more for being more efficient in using resources, but just the opposite; and it does not pay more for better quality or less for poorer quality. (The assumption has implicitly always been that quality will take care of itself because all physicians will do what it takes to ensure quality—an assumption that the evidence shows to be unfounded.)



Value-based purchasing is based on the concept that if we want better quality and lower cost, then we must reward providers (and health plans) for producing medical services with those characteristics. This is hardly a revolutionary idea: what sensible purchaser would pay a supplier on an open-ended, per unit basis—for whatever amounts and quality of resource the supplier chose to provide? Value-based purchasing is based on the principle that purchasers should assess provider cost and quality in deciding which health care services to buy and, further, that they can change provider behavior by purchasing in a way that financially rewards those who provide high-quality, cost-effective care.²⁷

Most of the value-based purchasing reforms we review in this paper are being implemented within the structure of the present delivery system—one that is largely fragmented, made up of many individual providers acting independently with only a modicum of coordination. Many critics hold the view that such a system is incapable of really reforming in a way that gives adequate prominence to and appropriately promotes quality and cost effectiveness. Whether that view is correct is beyond the scope of this paper to explore. Instead we concentrate on the approaches that largely take the present delivery structure as a given.

The ostensibly simple idea that health care purchasers should act on quality and cost information can be implemented in a variety of ways. Value-based purchasing encompasses a range of strategies that target different organizational units within the health care system—for example, individual physicians, medical groups, and even hospitals, through the application of pay-for-performance; or health plans, when employers or public purchasers use quality and cost-effectiveness information in deciding which plan to select.^{28, 29} The impetus for reform can come from individual employers, business coalitions, health plans, public insurance programs such as Medicare and Medicaid, or partnerships among any of these stakeholders and physicians.

Value-based purchasing has historically been employed by large private employers and business coalitions, but more recently state employee benefits purchasers, Medicare and Medicaid programs, and multi-payer coalitions have implemented VBP strategies.³⁰ Public purchasers are increasingly requiring data collection and reporting and are including performance incentives in their contracts with health plans and providers.³¹ The number of programs in both the private and public sector is constantly growing.

This review will focus on value-based purchasing strategies that use incentives to *influence provider behavior at the physician level, primarily pay-for-performance*.

Pay for Performance Options

The approaches to pay-for-performance are varied:³²

²⁷ Meyer J, Lise R and Eichler R. *Theory and Reality of Value-Based Purchasing: Lessons from the Pioneers*. (Rockville, MD: AHRQ, Nov 1997)

²⁸ Rosenthal MB, Landon BE, Normand ST, Frank RG, Ahmad TS, Epstein AM, “Employers’ Use Of Value-Based Purchasing Strategies,” *JAMA* 298;19 (2007): 2281-2288.

²⁹ Maio V, Goldfarb NI, Carter C, Nash DB, *Value-based Purchasing: A Review of the Literature*, Commonwealth Fund pub. No. 636. (New York: The Commonwealth Fund, May 2003)

³⁰ Silow-Carroll S, Alteras T, *Value-driven Health Care Purchasing: Four States that are Ahead of the Curve*, Commonwealth Fund pub. No. 1052 (New York: The Commonwealth Fund, August 2007) and Maio et al, 2003.

Silow-Carroll and Alteras, 2007.

³² Bodenheimer T, May JH, Berenson RA, Coughlan J, *Can Money Buy Quality? Physician Response to Pay for Performance*. (Washington, DC: Center for Studying Health System Change, December 2005)



- Physician organizations pay individual members bonuses for improvement on quality measures. (Physician groups have been more enthusiastic than health plans about individual provider-level quality measurement and incentives.)³³
- Employers pay individual physicians for meeting quality standards or for improved performance. (This could occur under a physician certification program, such as NCQA's Physician Practices Connection,³⁴ or the Bridges to Excellence program, described below.)
- Individual health plans or public purchasers pay providers for meeting quality standards, for improved performance on quality measures or for adopting health information technologies or other practice changes and improvements.
- Individual health plans reward physicians for the quality of care for only a small number of the plan's enrollees who have a particular medical condition.
- Individual health plans or Medicare pay performance bonuses to physician organizations rather than to individual physicians. The physician organization may invest the bonus money in quality improvement and/or distribute it to members.
- Multiple health plans coordinate payment to physician organizations for improved quality (for example, the model for California's Integrated Healthcare Association, discussed below).

These approaches represent pay-for-performance as we discuss it in this paper. But many reformers see these as limited and only the beginning steps to more encompassing and fundamental changes in the financial incentive structure for providers that aim to shift reimbursement away from the fee-for-service model. These are beyond the scope of this paper, but they are outlined in Appendix A.

What are some examples of pay-for-performance programs that target physicians?

California's Integrated Healthcare Association

The Integrated Healthcare Association was launched in 2003, with the participation of the seven largest HMOs in California. It uses a single set of physician performance measures, many of which are similar to the commonly used Healthcare Effectiveness Data and Information Set (HEDIS) measures developed by the National Committee for Quality Assurance. It tracks three main categories of quality: clinical quality, patient experience, and health information technology capabilities. The participating health plans make bonus payments to the medical groups, whose physicians may be paid on a salary, capitated, or traditional fee-for-service basis. Plans have considerable flexibility in how to pay bonuses: "Each health plan determines its own budget and methodology for calculating and distributing payments to physician groups. Historically, most health plans made payments based on relative performance after physician groups have met minimum thresholds. More recently, pay for im-

³³ Damberg CL, Raube K, Teleki SS, dela Cruz E, "Taking Stock of Pay-for-Performance: A Candid Assessment from the Front Lines," *Health Affairs* 28;2 (2009): 517-525.

³⁴ NCQA. "Physician Practice Connections – Patient Centered Medical Home Accreditation." <http://www.ncqa.org/tabid/631/default.aspx>



provement has become a feature of the payment methodology of most participating plans.”³⁵ Total incentive payments have ranged from \$38 million to \$65 million annually over the six years of the program, with the 2009 total expected to be about \$46 million.³⁶

Bridges to Excellence

Bridges to Excellence (BTE) was launched in 2002 by a multi-stakeholder group of large employers, health plans, and providers and now operates as a non-profit that works with health plans, employer coalitions, and state agencies across the country. Its pay-for-performance approach is based on a physician certification process, in which individual doctors report medical record and other data to be certified in a disease-specific area, such as diabetes, hypertension, or depression care. BTE employers and health plans pay bonuses directly to certified physicians based on the estimated savings from improved quality of care. The program began with a group of 20 physicians in Massachusetts using only its diabetes care certification. It has expanded to certify 8,500 physicians nationally with a total of \$10 million in bonuses paid. Like the California IHA, BTE uses a single set of measures similar to HEDIS scores.³⁷

What conditions must exist to make value-based purchasing doable?

Data

Performance-based payment systems can reward only performance that can be measured. Thus value-based purchasing depends on having adequate, accurate, and agreed-upon measures and data—in this case data to assess the performance of individual physicians, medical groups, or health plans. The challenge is to ensure that the measures of performance truly reflect the outcomes that are desired; if they do not, the system could reward behavior that does not produce the desired results. For instance, it is much easier to measure process performance—how often was this service provided when a patient presented these symptoms?—than outcomes performance—to what extent did the patient’s health improve? The process measure is only a means to an end, not the desired end, but measurement is obviously easier. Defining, collecting and analyzing needed data can be both conceptually and administratively demanding and costly, especially for pay-for-performance strategies that operate at the physician level. For example, one of the greatest challenges is to account for differences in severity of illness among different providers’ patients when health outcome measures are included, because severity obviously has a profound affect on the cost of treatment and the likelihood of improved health status.³⁸ But a robust set of quality measures

³⁵ Integrated Healthcare Association. “Program Results. Health Plan Incentive Payments.” http://www.ihc.org/program_results.html (accessed October 28, 2009).

³⁶ Ibid.

³⁷ Rosenthal MB, de Brantes FS, Sinaiko AD, Frankel M, Robbins RD, Young S, “Bridges to Excellence—Recognizing High-Quality Care: Analysis of Physician Quality and Resource Use,” 2008. *American Journal of Managed Care* 14;10 (2008): 670-677.

³⁸ For this reason, NCQA developed process-oriented quality measures that do not take into account the severity of a patient’s illness or their health outcomes. These Healthcare Effectiveness Data and Information Set (HEDIS) measures are used extensively nationwide—by more than 90 percent of health plans, according to NCQA (NCQA: HEDIS and Quality Measurement. <http://www.ncqa.org/tabid/59/Default.aspx> (accessed November 9, 2009).



that all stakeholders accept as accurate and valid basis for payment is a critical foundation for a pay-for-performance effort.

The proliferation of quality measurement in recent years makes it easier to meet this precondition for value-based purchasing, but it also raises practical challenges. The importance of having standardized quality measures in a health care market has been highlighted by existing value-based purchasing and pay-for-performance efforts. They demonstrate that standardization is necessary so that purchasers and those paying financial incentives can make valid comparisons among different plans or providers.³⁹ Moreover, incentives designed to influence individual physicians' behavior are likely to be diluted and thus ineffective if different payers use different incentive arrangements, that is, if they pay for different performance. California's Integrated Healthcare Association pay-for-performance effort, which operates at the medical group level, has successfully standardized quality measures among seven major payers that participate.⁴⁰

Adequate Incentives

Performance incentives must be large enough to influence the participants' behavior, a challenge that even the largest pay-for-performance efforts have struggled with.⁴¹ Evaluations of the Integrated Healthcare Association (IHA) pay-for-performance program, which involves over 6 million patients and 35,000 physicians in 225 medical groups that contract with the seven largest HMOs in California, have found that performance incentives ranged from only 1 percent to 5 percent of an average primary care provider's salary.^{42,43} Some participants in this and other studies thought physician behavior will not be much affected unless at least 10 percent of income is tied to performance.^{44,45} However, while physicians and purchasers involved in the IHA experiment supported increasing the size of financial incentives, plans considered this a lower priority because they questioned whether the evidence on pay-for-performance justified such significant additional investment.

Provider Participation

Getting adequate provider participation has often been a challenge for plans implementing financial incentives.⁴⁶ Most plans have developed their programs "cautiously and often collaboratively" to address providers' concerns about the structure of the financial incentives, the specific measures being used, the potential for conflicting scores from different health plans in the same market, and the administrative burden of implementing pay-for-performance.⁴⁷

³⁹ Maio et al, 2003.

⁴⁰ Damberg et al, 2009.

⁴¹ Damberg et al, 2009.

⁴² Damberg CL, Raube K, Williams T, Shortell SM, "Paying for Performance: Implementing a Statewide Project in California," *Quality Management in Health Care* 14;2 (2005): 66-79.

⁴³ Damberg et al, 2009.

⁴⁴ Damberg et al, 2009.

⁴⁵ Trude S, Au M, Christianson JB, "Health Plan Pay-for-Performance Strategies," *American Journal of Managed Care* 12 (2006):537-542.

⁴⁶ Trude, 2006, Williams TR, "Practical Design and Implementation Considerations in Pay-for-Performance Programs," *American Journal of Managed Care* 12;2 (2006): 77-80., and Forrest CB, Villagra VE, Pope JE, "Managing the Metric vs Managing the Patient: The Physician's View of Pay for Performance," *American Journal of Managed Care*, 12;2 (2006): 83-85.

⁴⁷ Trude, Au, and Christianson, 2006.



Broader, multi-stakeholder involvement has also emerged as an important component of value-based purchasing efforts. Several advanced value-based purchasing efforts have strong histories of multi-stakeholder collaboration that helped sustain the challenging process of developing and implementing policies with a large number of diverse organizations.⁴⁸ Examples include a broad purchasing coalition in Minnesota and a “mixed coalition” in Washington State that also included providers and plans.

What are the barriers to implementing a value-based purchasing program and making it successful?

Administrative Costs

Multiple studies have found that administrative costs of measuring and using quality information may be limiting adoption of value-based purchasing, particularly among smaller employers.⁴⁹ If this is true, then purchasing coalitions or multi-payer collaborations could have an especially critical role to play because of the economies of scale they could provide. However, the finding that employers are not extensively using even the quality information they do have to make purchasing decisions suggests that issues other than administrative cost may also play a role. Employers may believe that their smaller-scale efforts will not be influential, or they may not be convinced of a business case for value-based purchasing, a position that existing evidence supports.⁵⁰ This may mean that “efforts to alter the dynamics of health plan and provider competition” to focus more on quality “will likely have to come from other sources, including private employer coalitions, multi-stakeholder collaborative organizations, and the public sector,” particularly from Medicare.⁵¹

Reluctance to Use Performance Information

Despite widespread interest and activity among purchasers (particularly large employers) in collecting information about the performance of providers and health plans, even purchasers that are involved in quality measurement are not necessarily using that information to make decisions.⁵² A 2007 study of the largest employers in 41 U.S. health care markets found that while a majority (65 percent) said they examined health plan quality data, few (17 percent) based performance rewards on it; only 16 percent looked at physician performance information, and just 2 percent used it for performance rewards.⁵³ Among employers who considered plan quality data, 17 percent used it to determine incentives in plan contracts, 9 percent based employee premium contributions on quality information (a value-based benefit design strategy), and 28 percent worked with health plans to develop quality improvement strategies. Approximately one-fifth of the employers surveyed participated in a purchasing coalition; larger employers were more likely to use any of these strategies, though less likely to be part of a purchasing coalition. However, this study did not address pay-for-performance

⁴⁸ Silow-Carroll and Alteras, 2007.

⁴⁹ Rosenthal et al, 2007, Silow-Carroll and Alteras, Trude, Au, and Christianson, 2006.

⁵⁰ Rosenthal et al, 2007.

⁵¹ Rosenthal et al, 2007.

⁵² Maio et al, 2003., Rosenthal et al, 2007.

⁵³ Rosenthal et al, 2007.



within plans but only the activities of purchasers, so it did not evaluate the extent to which plans themselves were using pay-for-performance internally.

Appropriately Structured Incentives and Measures of Performance

Another issue purchasers must consider is how to weight cost information relative to quality information in structuring incentives. There is a temptation for consumers (and also larger purchasers) to assign a preponderance of weight to cost, which could be especially powerful if quality data are not standardized or are perceived as challenging to interpret or not credible.⁵⁴ Providers could feel pressure to emphasize cost control more heavily than quality improvement if incentives are not aligned to prevent this result.

Finding a balance between standardized measures that purchasers and providers say they would prefer and more tailored measures that reflect the preferences of health plans is another challenge for pay-for-performance and value-based purchasing more broadly. A study that examined efforts in several communities to establish a common set of performance measures—efforts that were typically led by employer groups—found that plans were diverging in the measures they used. They did so in the interest of customizing their incentives and measures to the populations they served or to reflect their expectations about providers' performance. The researchers concluded that it was unlikely that local market environments would allow total standardization of measures.⁵⁵

Choosing and Measuring Outcomes

Measurement of the effectiveness of value-based purchasing in controlling costs and improving quality is still limited.⁵⁶ Cost-containment could be measured by decreases in the rate of growth of premiums for plans using value-based purchasing, or in overall slowing of the growth of health care spending in areas where value-based purchasing had been widely implemented. Improvements in the measured quality of health care would also provide evidence of success, as long as the measures were appropriately chosen and accurately measured. Pay-for-performance programs are increasingly using outcomes and cost-efficiency rather than process measures, but there is still not a significant body of evidence supporting major effects on quality.⁵⁷ Interpreting the results of pay-for-performance efforts can also be challenging: in an evaluation of California's IHA effort, some plans questioned whether apparent quality improvements were actually due merely to improved data collection as the effort progressed.⁵⁸ A study of "early adopters" of pay-for-performance, while identifying some positive trends, also noted that the organizations it surveyed "widely acknowledged that the dynamic nature of P4P arrangements, coupled with contemporaneous shifts in benefit design, public reporting, and other aspects of the health system, makes the identification of the true impact of P4P challenging, if not impossible."⁵⁹

⁵⁴ Maio et al, 2003.

⁵⁵ Trude, Au, and Christianson, 2006.

⁵⁶ Damberg et al, 2009.

⁵⁷ Rosenthal, MB, Landon B, Howitt K, Ryu Song H, Epstein AM, "Climbing Up the Pay-for-Performance Learning Curve: Where Are the Early Adopters Now?" *Health Affairs* 26;6 (2007): 1674–1682.

⁵⁸ Damberg et al, 2009.

⁵⁹ Rosenthal et al, 2007. Climbing Up The Pay-For-Performance Learning Curve: Where Are The Early Adopters Now?



Deciding how to measure good performance is also a challenge. The objective of pay for performance is to have providers achieve a defined level of performance. So it seems logical to reward providers who achieve that level. The problem is that much of the money may go to providers who had already achieved that performance level before the incentives were changed. In a sense, the money is “wasted” and performance may improve little because the providers who improve but fail to come fully up to the standard are not rewarded. But, of course, paying for improvement regardless of the absolute level of performance will seem unfair to the physicians who already perform at or above the defined standard. The challenge is to develop performance measures that encourage both improvement and achieving the absolute standard; but that can be costly, and the right balance may be difficult to find.

Summary

The barriers to pay-for-performance are significant, but its wide adoption suggests they are by no means insurmountable. Establishing the “necessary conditions” discussed earlier requires extensive efforts involving multiple stakeholders, and once a pay-for-performance program is operational, there are still many issues to monitor and explore. For example, some organizations involved in California’s pay-for-performance effort have cautioned that risk selection by providers could become a problem as the financial stakes of pay-for-performance increase and incentives to avoid the cost of treating complex patients become stronger, particularly if health outcome measures are included.⁶⁰ The need to prevent risk selection reinforces the necessity of developing accurate severity risk adjusters that providers accept as valid and sufficient to offset the cost and difficulty of treating sicker patients and having them achieve health status milestones. Providers (and plans) also need to ensure that meaningful aspects of quality are not ignored because of a focus on the aspects that are being measured—though presumably, well-designed quality measures would leave few meaningful metrics unmeasured. Value-based purchasing efforts must also address the question of how to balance incentives for meeting established standards with incentives for improvement. At the individual employer level, high administrative costs and the possibility that employers may not believe their efforts would influence provider behavior may suggest that pay-for-performance efforts led by Medicare or implemented among many purchasers are more likely to succeed.

What is the evidence about the success of value-based purchasing?

Despite increasing adoption of value-based purchasing strategies, there is still little evidence about whether they improve quality or produce savings.⁶¹ Health plans have been quick to adopt pay-for-performance, with one survey finding that more than half of HMOs used pay-for-performance strategies in their provider contracts.⁶² Although the “enthusiastic adoption and somewhat lackluster early results” of pay-for-performance has motivated payers to examine broader approaches to payment reform in recent years,⁶³ the literature does not reflect any major shift away from pay-for-performance. The lack of evidence may be partly due to

⁶⁰ Damberg et al, 2009.

⁶¹ Maio et al, 2003., and Damberg et al, 2009.

⁶² Rosenthal et al, 2007.

⁶³ Rosenthal MB, “Beyond Pay-for-Performance—Emerging Models of Provider-Payment Reform,” *New England Journal of Medicine* 359;12; (2008): 1197-1200.

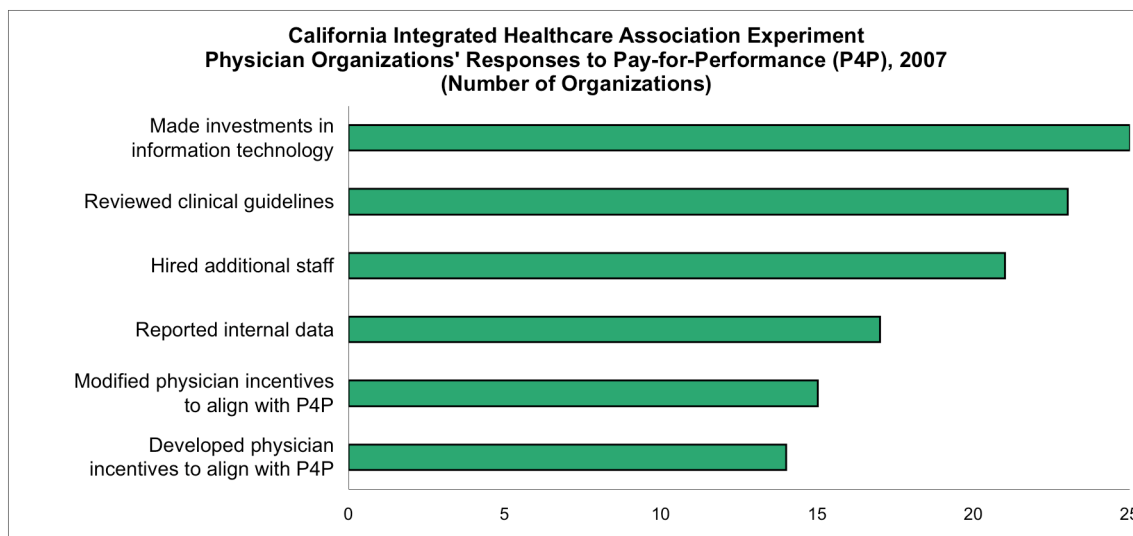


the relatively recent emergence of large pay-for-performance efforts such as the IHA experiment in California and to a lack of opportunity to study the long-term impact on quality or cost. But the evidence that does exist on the results of provider-level incentives is mixed. The many alternatives for structuring pay-for-performance are likely to have different effects on providers. Appendix B includes a summary of major pay-for-performance components and their potential or observed consequences. Several examples of results from the range of activities taking place are described below.

California's Integrated Healthcare Association

A recent study of the California Integrated Healthcare Association experiment, the largest pay-for-performance effort, suggests that after three years it had not produced “break-through” quality improvements. However, participants indicated that it had led to increased physician participation in performance improvement activities, accelerated adoption of health information technology, and more emphasis on quality improvement in their organizations.⁶⁴ Figure 1 shows the actions that 35 surveyed medical groups reported taking as a result of implementing pay-for-performance.⁶⁵

Figure 1



The study found that physician groups still faced challenges in monitoring their performance, particularly at the individual physician level. Thirty-three of the groups surveyed called the standardization of measures IHA’s most important achievement. Approximately half the groups studied reported a positive return on investment from the performance bonuses, meaning that they were paid more than they spent to implement changes. However, the study found that the program had not led to “breakthrough” quality improvements that participants hoped for; the “initial structure . . . did not result in all groups raising their performance to high levels.”⁶⁶ Health plans and purchasers identified the next steps to increasing the program’s impact as increasing the incentive pool, rewarding improvement, and providing support to organizations that most need quality improvement resources.

⁶⁴ Damberg et al, 2009.

⁶⁵ Damberg et al, 2009.

⁶⁶ Damberg et al, 2009.



Bridges to Excellence

A study of quality of care and resource use of Massachusetts physicians who participated in Bridges to Excellence's first two certification programs found that BTE-certified physicians performed better than physicians who were not certified and that BTE primary care physicians used fewer resources: "Our findings suggest that recognition by BTE is associated with systematically better performance on claims-based measures of quality. Moreover, recognized physicians appear to use a different style of practice than their peers, emphasizing patient management over ancillary services and procedures."⁶⁷ The study evaluated process-related quality measures for physicians certified in a diabetes management program and for physicians in a primary care certification program that assesses coordination of care and health information technology use. The performance incentives were \$80 per patient per year for the diabetes program and \$50 per patient for the primary care program. BTE-recognized physicians performed better on all measures of quality, with significant differences found in cervical cancer screening, mammography, A1C testing in the primary care program, and all four diabetes care measures for the diabetes program. The findings also indicated cost savings: participating primary care physicians had almost 20 percent lower resource use than similar physicians not in BTE.

The authors caution that because BTE certification is voluntary, participants may have already been high performers with good access to technology and administrative support, and the program may do little to promote improvement among lower-quality providers or those who cannot afford its administrative cost.⁶⁸

Other Evidence

A study of 27 pay-for-performance program sponsors that covered primary care physicians, specialists, and hospitals found that, although evaluation of the results was very limited, there was some evidence of improvement. However, the majority of participants reported either mixed or no effects: "respondents covering 38 percent of enrollees [reported] solid gains, with another 42 percent finding mixed results and 20 percent finding no effect."⁶⁹

Another study compared physician group quality within a single plan, PacifiCare Health Systems.⁷⁰ The study matched the plan's California physicians, who participated in pay-for-performance at the medical group level, to those in Oregon and Washington medical groups, who did not. The study focused on cervical cancer screening rates, mammography, and hemoglobin_{A1C} testing. The study found a small (3.6 percent) improvement in only cervical cancer screening in the first year of the program. The design of the bonus program meant that physician groups that were already performing well, and improved the least, received the largest bonuses. The authors emphasize that paying providers to reach a fixed performance target may produce relatively little quality improvement per dollar of incentive payment, because that incentive structure rewards mostly existing high-performers. This effort also oc-

⁶⁷ Rosenthal MB, de Brantes FS, Sinaiko AD, Frankel M, Robbins RD, Young S, "Bridges to Excellence—Recognizing High-Quality Care: Analysis of Physician Quality and Resource Use," 2008 *American Journal of Managed Care* 14;10 (2008): 670-677.

⁶⁸ Rosenthal et al, 2008.

⁶⁹ Rosenthal, MB, Landon B, Howitt K, Ryu Song H, Epstein AM, "Climbing Up the Pay-for-Performance Learning Curve: Where Are the Early Adopters Now?" *Health Affairs* 26;6 (2007): 1674-1682.

⁷⁰ Rosenthal MB, Frank RG, Li Z, Epstein AM, "Early Experience with Pay-for-Performance: From Concept to Practice," *JAMA* 294 (2005):1788-1793.



curred soon before the implementation of the California IHA program, so the authors note that *anticipation* of that major quality improvement and incentive effort could have played a role in the positive results from the California providers.

Alternatives to fixed performance targets are available that avoid the design flaw of failing to reward improvement by low performers. For example, in a program in Rochester, New York, primary care physicians who treat diabetes patients gain or lose compensation based on their performance relative to other participating physicians. A study of the program found a modest quality improvement effect.⁷¹ Physicians' rate of adherence on eye examinations increased an average of 7 percentage points in the first year of the program. As with other pay-for-performance efforts, about 5 percent of income was contingent on performance.

The RAND Institute also highlighted the cost savings achieved in this program but noted that such savings had not been replicated, so it is not clear how well the results would generalize to other settings:

Curtin et al. (2006) evaluated a private sector P4P program sponsored by Excellus Health Plan and conducted by the Rochester Individual Practice Association (RIPA). Using data from 2003 and 2004, the authors tracked the projected spending trend for diabetes care and found an average net savings of \$2.4 million per year associated with providing more reliable diabetes care. The savings estimates accounted for new spending to provide underused services for managing patients with diabetes. The largest savings came from reducing hospitalizations, followed by physician cost, pharmacy, and outpatient spending.⁷²

RAND also noted that in the CMS Physician Group Practice Demonstration, in which ten physician groups participated in a gain-sharing program, four of the ten groups “experienced favorable financial performance” under the financial incentive system, in which physicians shared bonus payments for reducing cost and improving quality. Medicare spending grew more slowly for patients with diabetes or coronary artery disease.⁷³

It remains unclear whether the lack of major “breakthrough” improvements in quality from pay-for-performance efforts thus far stems from design flaws in the existing models or whether the potential impact of the approach as a whole is limited to incremental change because of the structural constraints of current delivery system and payment models. However, the improvements that have been observed in California and in some other cases may also point to the value of pay-for-performance as “a larger signal of a changing environment” in which improving systems and quality of care is a higher priority.⁷⁴

⁷¹ Young GJ, Meterko M, Beckman H, Baker E, White B, Sautter KM, Greene R, Curtin K, Bokhour BG, Berlowitz D, Burgess JF, “Effects of Paying Physicians Based on Their Relative Performance for Quality,” *Society of General Internal Medicine* 22 (2007):872–876.

⁷² Damberg et al, 2009, and Curtin K, Beckman H, Pankow G, Milillo Y, Greene RA, “Return on Investment in Pay for Performance: A Diabetes Case Study,” *Journal of Healthcare Management* 51;6 (2006): 365-376.

⁷³ Centers for Medicare & Medicaid Services (CMS), U.S. Department of Health and Human Services, Web site, “Physician Groups Earn Performance Payments for Improving Quality of Care for Patients with Chronic Illnesses,” news release, August 14, 2008.

⁷⁴ Rosenthal et al, 2005.



What are the implications for value-based purchasing in the Maryland small-group market?

Pay for performance involves an incentive payment arrangement between a purchaser and some provider. Because the Commission is not a purchaser, it is not obvious how the Commission can directly influence pay-for-performance arrangements in the small-group market.

Health plans or employers are the purchasers. They are the ones that can use their buying power to persuade providers to enter into various pay-for-performance arrangements. And they and the employees they represent are the ones who reap the benefits in the form of lower costs and improved quality if the program is successful. It is difficult to see what leverage an outside party like the Commission can bring to bear to ensure such relationships.

There is the additional question of whether there is sufficient evidence about the success of pay for performance for the Commission to take a position. The evidence to date is ambiguous. Clearly, much experimentation is under way, and much will be learned in the near future about the kinds of arrangements that are most successful, not administratively overly burdensome, and cost-effective. It may be prudent to wait before promoting any particular approach.

It does seem feasible for the Commission to ask the carriers that operate in both the small-group and large-group markets to describe the current pay-for-performance strategies they use in the large-group market. Some insurers may apply their strategies across all markets, including them in their reimbursement contracts with network providers and using them as the basis for payment for all patients insured by the carrier. But some others may apply pay-for-performance reimbursement only when providers serve patients covered under particular contracts. In such instances, it would be worth asking the carriers whether the small-group business could be brought under these initiatives. Bringing patients from the small-group market under the pay-for-performance reimbursement arrangements would send more business to the participating physicians, which they should like. And the marginal cost for the insurers should not be large.

The intent of pay-for-performance is to improve quality and contain costs through changing the incentive structures for providers. While most analysts applaud the experimentation, many would argue that such reforms should be considered an interim position and that what will really be required to achieve major improvements is a major restructuring of the delivery system. They see the fee-for-service reimbursement system as being a major culprit that inherently rewards doing more rather than doing better, and as long as it prevails, it will be very difficult to overcome the strong incentives in that system. Even if as much as 10 percent of provider income is tied to pay for performance incentives, providers may be able to make up for any loss they might incur by simply doing 10 percent more procedures and tests. There is a large body of evidence that provider discretion and habits account for large differences in the intensity and number of services they order. Proponents of this view would argue that more massive changes in the incentive structure are needed, and that these can be accomplished only by restructuring the delivery system by integrating various provider groups into HMOs, accountable care organizations, and the like. What is needed, such critics contend, are broad delivery system changes, major payments reforms, and new provider cultures.



Even if it would be premature for the Commission to promote pay-for-performance arrangements, the Commission could encourage changes that would make both pay for performance and more systematic restructuring easier to accomplish. An example would be encouraging health information technology (HIT). A critical part of a HIT is standardization and interoperability. These are necessary building blocks not only for pay-for-performance but also for measurement of performance when the system does move toward more encompassing reform and greater integration of providers.

If health plans initiate pay-for-performance reimbursement systems through contracts with their provider networks, they may use the approach for all segments of the business in Maryland, including the small-group market. They are certainly not going to use such techniques for just their small-group business. The Commission thus can probably only indirectly influence health plans to adopt such techniques. Through its informal contacts with health plans, the Commission can inquire about and be supportive of health plan efforts to experiment with pay-for-performance approaches to reimbursement.

CONCLUSIONS AND RECOMMENDATIONS

For the most part, value-based benefit design and value-based purchasing are complementary strategies, the first being designed to influence consumer decisions in the direction of higher quality and greater cost effectiveness and the second targeting provider behavior to accomplish the same objectives. Some forms of these two strategies are highly complementary and reinforcing—for example, value-based benefit design that creates incentives for consumers to choose high-quality providers and value-based purchasing that creates incentives for providers to achieve designation as high-quality, cost-effective providers. Another complementary example is an approach that rewards providers for prescribing appropriate drugs to patients with specified conditions and a value-based benefit design that lowers consumer cost sharing for prescription drugs known to have high-value. In such instances there would be a clear benefit to making providers aware of the complementary incentives for patients; knowing such information, providers would be in an even more advantageous position to encourage patients to comply with the prescribed treatment. Assuming specific applications of value-based benefit design and value-based purchasing are based on solid medical evidence, it is difficult to think of instances in which the two approaches would be in conflict.

Although both value-based benefit design and value-based purchasing show substantial promise as ways to reduce costs and improve quality, the evidence is not definitive about which specific approaches, if any, are most successful. In fact, much of the evidence is anecdotal, based on reports of individual experiments. This lack of empirical evidence should not be taken as an indication that both approaches are not worthy of further experimentation and evaluation. Both are relatively young strategies, and further time may need to pass before it is possible to arrive at a definitive conclusion about how well they work and which specific approaches produce the greatest positive results. At the same time, both public and private purchasers are testing and adopting new payment arrangements and models (as outlined in Appendix A) that often include elements of value-based purchasing or value-based benefit design. They are not stand-alone strategies that can be evaluated in isolation from the array of other cost-containment and quality improvement efforts purchasers make. To the extent



that both public and private purchasers are beginning to test and adopt more fundamental payment reforms, value-based purchasing and value-based benefit design may gain more leverage as complementary strategies, or become viewed as less necessary.

In view of the tentative nature of the conclusions that can be reached regarding the success of either strategy, along with the substantial challenges of implementing these reforms in the small-group market, the Commission may wish to adopt a “watchful waiting” approach, keeping abreast of new initiatives and the evaluations of those efforts but not taking any direct action beyond general support for more experimentation at this time. The Commission also could further explore the possibility of assuming a role in promoting a multi-purchaser collaboration in Maryland that models promising efforts in Minnesota, Washington, or other states. It is virtually certain that the momentum is building for further innovations and more widespread adoption of these techniques, and at some point they are likely to play a part in the small-group market in Maryland.



APPENDIX A: EMERGING MODELS OF PAYMENT REFORM

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SOURCE OR MODEL	DESCRIPTION	STAGE OF DEVELOPMENT
Incremental reforms: nonpayment for avoidable complications		
HealthPartners, CMS*	Nonpayment for “never events” (e.g., surgery performed on the wrong body part, HealthPartners) and other preventable inpatient complications (e.g., catheter-associated urinary tract infections, CMS)	Implemented by HealthPartners Jan. 1, 2005, and by CMS Oct. 1, 2008
Primary care payment reform		
American Academy of Family Physicians, American College of Physicians, American Osteopathic Association, American Academy of Pediatrics	Tiered case-management fees (in addition to fee for service) paid per member per month to practices that demonstrate structural characteristics of a medical home, such as maintenance of disease registries and patient-education capabilities; performance incentives typically included	Pilots under development or in place include individual health plans, Medicare, Medicaid, and involved coalitions; specific examples include Group Health Incorporated and the Health Insurance Plan of New York as well as the Chronic Care Sustainability Initiative (multipayer initiative in Rhode Island that includes Medicaid)
Comprehensive Primary Care Payment and the Massachusetts Coalition for Primary Care Reform†	Primary care capitation with performance incentives; per-member, per-month payment rate based on accounting for costs of medical home, including, for instance, a \$250,000 salary for the primary care physician; the salaries of a part-time nutritionist, part-time social worker, nurse, nurse practitioner, and medical assistant; office expenses; and the costs of setting up electronic health records and employing a data manager	Pilot under development
Episode-based payment		
Prometheus	Episode-based payment model that defines global case rates for given conditions (e.g., acute myocardial infarction, diabetes, and knee replacement); payment amounts informed by cost of adhering to clinical standards of care; risk stratification and complication allowance; performance incentives based on comprehensive score card	Pilot under development
Geisinger Health System, ProvenCare	Episode-based payment for elective coronary artery bypass grafting; 90-day global fee paired with high-reliability process improvements to achieve 40 best-practice standards	In use; expanding to other conditions and types of acute episodes



Shared savings		
Medicare Physician Group Practice Demonstration	Large, integrated groups may earn bonuses for demonstrating slower growth in spending for patient care relative to peers; any savings above 2 percentage points are shared with CMS, with up to 80% for the physician group; quality of performance affects share of savings (no quality bonus without savings)	Began in 2005; intended to last 3 years
Alabama Medicaid	Primary care physicians are eligible to share in savings according to their performance on use of generics, emergency department visits, office visits, and an index of actual-versus-expected total of allowed charges	Launched in 2004; payments began in 2007

* CMS denotes Centers for Medicare and Medicaid Services.

† See Goroll et al, Fundamental reform of payment for adult primary care: comprehensive payment for comprehensive care. *J Gen Intern Med* 2007;22:410-5.

Source: Rosenthal MB, Beyond Pay-for-Performance – Emerging Models of Provider-Payment Reform. *N Engl J Med* 359; 12 (2008): 1197-1200.



APPENDIX B: PAY-FOR-PERFORMANCE DESIGN

Following is a summary of major pay-for-performance design features produced by the Agency for Healthcare Research and Quality.⁷⁵

DESIGN FEATURE	OPTIONS/RECOMMENDED APPROACH
Which providers to target? (Primary care, specialists, or both?) Individual providers or physician groups? Voluntary or mandatory?	Those who: <ul style="list-style-type: none">• Have previously-measured quality problems• Deliver a large share of services• Already use or have the capability to use performance measures Individual-level <ul style="list-style-type: none">• May create stronger motivation/personal accountability• Allows more specific feedback on performance Group-level <ul style="list-style-type: none">• Represents a more “systems”-oriented approach to quality of care• Measurement errors may be fewer, especially for rare clinical outcomes• Providers prefer voluntary programs, but these are likely to attract existing high-performers and not those most in need of quality improvement• Mandatory programs can promote quality more broadly, but are more challenging to implement• Considerations should include data availability, the relationships and relative strength of providers compared with purchasers, and the type of incentives being provided (e.g., mandatory bonuses will be perceived differently than mandatory penalties)
Incentive Structure Bonuses or penalties? Structure of the reward	Evidence is mixed: <ul style="list-style-type: none">• Providers may like bonuses better• Penalties may be more effective/viewed as more serious• Penalties may motivate providers to “game” the system to avoid them; however, bonuses may lead to gaming to get them• Few existing programs incorporate penalties Options (which can be combined) include: <ul style="list-style-type: none">• Reward for meeting an absolute threshold• Differential rewards for reaching targets along a continuum• Combination of rewards for meeting thresholds and for any improvement• Per-patient bonus for providing a specific service or package of services• Rewards increase continuously as performance improves Findings – no single approach is “best”: <ul style="list-style-type: none">• Many existing programs use thresholds, though these do not reward improvement if providers do not achieve the threshold<ul style="list-style-type: none">◦ Tiered awards for reaching different targets help address this issue

⁷⁵ Agency for Healthcare Research and Quality (AHRQ). Pay for Performance: A Decision Guide For Purchasers. “Phase 2: Design.” <http://www.ahrq.gov/qual/p4pguide2.htm#q8> Accessed October 30, 2009.



<p>Who gets a reward? (All providers, or only the best performers?)</p>	<ul style="list-style-type: none"> Some efforts do explicitly pay for improvement, though some see paying bonuses to poor-quality providers as problematic <ul style="list-style-type: none"> Setting a threshold below which bonuses are not paid can help address this – though this may not help low-est performers improve <p>Advantages of rewarding only top performers:</p> <ul style="list-style-type: none"> Potentially stronger motivation for continuous improvement to keep pace with others Can use a smaller pool of bonus money <p>Disadvantages:</p> <ul style="list-style-type: none"> Providers cannot tell in advance how much improvement will be needed to qualify; may be more reluctant to participate if probability of reward unknown Existing high-performers have an advantage May be perceived as pitting providers against each other or discouraging collaboration <p>Findings:</p> <ul style="list-style-type: none"> Designers must decide whether their primary goal is to reward high-performers or improve the quality of all
<p><u>Size of the bonus</u></p>	<p>Factors to consider include:</p> <ul style="list-style-type: none"> Other incentives in place (existing payment structure) Patient demographics Organizational capabilities (e.g., health IT) Local market characteristics Provider characteristics (e.g., current performance) <p>Findings:</p> <ul style="list-style-type: none"> Small incentives are common (1-5% of provider income), though some pay-for-performance veterans believe larger incentives are needed to achieve significant changes
<p><u>Which measures to use?</u></p>	<p>Issues to consider:</p> <ul style="list-style-type: none"> Does an indicator measure areas that are priorities for quality improvement? Does it apply to only a single condition? Does it apply to multiple patient groups? Is it a process or outcome measure? Does it reflect technical competence or quality of patient experience? Is it actionable? Can providers influence it? Can it be measured, and what is the cost? Is it a nationally used indicator, or locally developed? <p>Findings:</p> <ul style="list-style-type: none"> Providers often prefer process measures, which are more under their control Purchasers often prefer structural measures such as procedure volume or health IT capabilities, but these may be weakly related to health outcomes National measures are preferable when possible, for standardization and to increase credibility, but local measures may fit local needs better



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